APPLICATION FOR FEDERAL ASSISTANCE

OMB Approval No. 0348-0043

2. DATE SUBMITTED	Applicant Identifier
04-26-2000	
3. DATE RECEIVED BY STATE	State Application Identifier
4. DATE RECEIVED BY FEDERAL AGENCY	Federal Identifier

1. TYPE OF SUBMISSION:

Application
- ☐ Construction
- ☒ Non-Construction

Preapplication
- ☐ Construction
- ☐ Non-Construction

5. APPLICANT INFORMATION

Legal Name:	Organizational Unit:
U. S. Fish and Wildlife Service	CA-NV Fish Health Center
Address *(give city, county, State, and zip code):*	Name and telephone number of person to be contacted on matters involving this application *(give area code)*
24411 Coleman Fish Hatchery Rd. Anderson, CA 96007	J. Scott Foott 530-365-4271

6. EMPLOYER IDENTIFICATION NUMBER *(EIN):*

☐☐ – ☐☐☐☐☐☐☐

7. TYPE OF APPLICANT: *(enter appropriate letter in box)* N

- A. State
- B. County
- C. Municipal
- D. Township
- E. Interstate
- F. Intermunicipal
- G. Special District
- H. Independent School Dist.
- I. State Controlled Institution of Higher Learning
- J. Private University
- K. Indian Tribe
- L. Individual
- M. Profit Organization
- N. Other (Specify) Fed. Govt.

8. TYPE OF APPLICATION:

☒ New ☐ Continuation ☐ Revision

If Revision, enter appropriate letter(s) in box(es) ☐ ☐

A. Increase Award B. Decrease Award C. Increase Duration
D. Decrease Duration Other *(specify):*

9. NAME OF FEDERAL AGENCY:

U.S. Fish and Wildlife Service

10. CATALOG OF FEDERAL DOMESTIC ASSISTANCE NUMBER:

☐☐ – ☐☐☐

TITLE:

11. DESCRIPTIVE TITLE OF APPLICANT'S PROJECT:

Health Monitoring of Hatchery and Natural Fall-run Chinook Juveniles in the San Joaquin River System and Delta

12. AREAS AFFECTED BY PROJECT *(Cities, Counties, States, etc.):*

Merced, San Joaquin Counties, California

13. PROPOSED PROJECT		14. CONGRESSIONAL DISTRICTS OF:	
Start Date	Ending Date	a. Applicant	b. Project
3/2001	7/2001	11,18	

15. ESTIMATED FUNDING:

a. Federal	$ 40,890.00
b. Applicant	$ .00
c. State	$ .00
d. Local	$ .00
e. Other	$ .00
f. Program Income	$ .00
g. TOTAL	$ 40,890.00

16. IS APPLICATION SUBJECT TO REVIEW BY STATE EXECUTIVE ORDER 12372 PROCESS?

a. YES. THIS PREAPPLICATION/APPLICATION WAS MADE AVAILABLE TO THE STATE EXECUTIVE ORDER 12372 PROCESS FOR REVIEW ON:

DATE _____

b. No. ☐ PROGRAM IS NOT COVERED BY E. O. 12372
☐ OR PROGRAM HAS NOT BEEN SELECTED BY STATE FOR REVIEW

17. IS THE APPLICANT DELINQUENT ON ANY FEDERAL DEBT?

☐ Yes If "Yes," attach an explanation. ☒ No

18. TO THE BEST OF MY KNOWLEDGE AND BELIEF, ALL DATA IN THIS APPLICATION/PREAPPLICATION ARE TRUE AND CORRECT, THE DOCUMENT HAS BEEN DULY AUTHORIZED BY THE GOVERNING BODY OF THE APPLICANT AND THE APPLICANT WILL COMPLY WITH THE ATTACHED ASSURANCES IF THE ASSISTANCE IS AWARDED.

a. Type Name of Authorized Representative	b. Title	c. Telephone Number
J. Scott Foott	Project Leader	530-365-4271
d. Signature of Authorized Representative		**e. Date Signed**
		4/26/00

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Standard Form 424 (Rev. 7-97)
Prescribed by OMB Circular A-102

PART E: **Certification Regarding Lobbying**
Certification for Contracts, Grants, Loans, and Cooperative Agreements

CHECK__ IF CERTIFICATION IS FOR THE AWARD OF ANY OF THE FOLLOWING AND THE AMOUNT EXCEEDS $100,000: A FEDERAL GRANT OR COOPERATIVE AGREEMENT; SUBCONTRACT, OR SUBGRANT UNDER THE GRANT OR COOPERATIVE AGREEMENT.

CHECK__ IF CERTIFICATION IS FOR THE AWARD OF A FEDERAL LOAN EXCEEDING THE AMOUNT OF $150,000, OR A SUBGRANT OR SUBCONTRACT EXCEEDING $100,000, UNDER THE LOAN.

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, and officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

As the authorized certifying official, I hereby certify that the above specified certifications are true.

SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL

TYPED NAME AND TITLE

DATE

2001-R-210

4.5 PSP Cover Sheet (Attach to the front of each proposal)

Proposal Title: Health Monitoring of Hatchery and Natural Fall-run Chinook Juveniles
Applicant Name: J. Scott Foott
Mailing Address: CA-NV Fish Health Center, 24411 Coleman Fish Hatchery Rd., Anderson, CA 96007
Telephone: 530-365-4271
Fax: 530-365-7150
Email: scott_foott@fws.gov

Amount of funding requested: $ 40,890 for 1 years

Indicate the Topic for which you are applying (check only one box).

- ☐ Fish Passage/Fish Screens
- ☐ Habitat Restoration
- ☐ Local Watershed Stewardship
- ☐ Water Quality
- ☐ Introduced Species
- ☒ Fish Management/Hatchery
- ☐ Environmental Education

Does the proposal address a specified Focused Action? X yes ____ no

What county or counties is the project located in? Merced, San Joaquin

Indicate the geographic area of your proposal (check only one box):

- ☐ Sacramento River Mainstem
- ☐ Sacramento Trib: ____
- ☒ San Joaquin River Mainstem
- ☐ San Joaquin Trib: ____
- ☐ Delta: ____
- ☐ East Side Trib: ____
- ☐ Suisun Marsh and Bay
- ☐ North Bay/South Bay: ____
- ☐ Landscape (entire Bay-Delta watershed)
- ☐ Other: ____

Indicate the primary species which the proposal addresses (check all that apply):

- ☒ San Joaquin and East-side Delta tributaries fall-run chinook salmon
- ☐ Winter-run chinook salmon
- ☐ Late-fall run chinook salmon
- ☐ Delta smelt
- ☐ Splittail
- ☐ Green sturgeon
- ☐ Migratory birds
- ☐ Other: ____
- ☐ Spring-run chinook salmon
- ☐ Fall-run chinook salmon
- ☐ Longfin smelt
- ☐ Steelhead trout
- ☐ Striped bass
- ☐ All chinook species
- ☐ All anadromous salmonids

Specify the ERP strategic objective and target (s) that the project addresses. Include page numbers from January 1999 version of ERP Volume I and II:

Artificial Fish Propagation, Page 421
Water Quality (Temperature & Contaminants) Pages 64, 421

Indicate the type of applicant (check only one box):

☐ State agency	☒ Federal agency
☐ Public/Non-profit joint venture	☐ Non-profit
☐ Local government/district	☐ Private party
☐ University	☐ Other: _____

Indicate the type of project (check only one box):

☐ Planning	☐ Implementation
☒ Monitoring	☐ Education
☐ Research	

By signing below, the applicant declares the following:

1.) The truthfulness of all representations in their proposal;

2.) The individual signing the form is entitled to submit the application on behalf of the applicant (if the applicant is an entity or organization); and

3.) The person submitting the application has read and understood the conflict of interest and confidentiality discussion in the PSP (Section 2.4) and waives any and all rights to privacy and confidentiality of the proposal on behalf of the applicant, to the extent as provided in the Section.

J. Scott Foott

Printed name of applicant

Signature of applicant

United States Department of the Interior
FISH AND WILDLIFE SERVICE
CALIFORNIA- NEVADA FISH HEALTH CENTER
24411 Coleman Fish Hatchery Road
Anderson, CA 96007

CALFED Bay-Delta Program
2001 Proposal Reviewers
1416 Ninth St., Suite 1155
Sacramento, CA 95814

May 8, 2000

Dear Sir / Madam,

I believe that the Fish Health Center's two FY2001 research proposals;
Health monitoring of hatchery and natural fall-run chinook juveniles in the San Joaquin R. system and Delta and

Health and Physiological effects of elevated water temperatures on Merced R. juveniles chinook during the parr-smolt transformation: Daily fluctuation and range representative of spring water temperatures in the San Joaquin system and Delta
are exempt from the CALFED requirement for pre-project public notification. Neither of these research projects will involve local entities or require land use changes.

I have also been advised the FWS cannot agree to a 10% retention clause for State funded projects and have attached specific language regarding this matter (**H. COMPLIANCE WITH STANDARD TERMS AND CONDITIONS**)..

Please contact me if there are any questions (530-365-4271). Thank you.

Sincerely,

J. Scott Foott
Project Leader

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H. COMPLIANCE WITH STANDARD TERMS AND CONDITIONS

The Fish and Wildlife Service (Service) cannot agree to a standard clause requested for State funded projects. Attachment D, Terms and Conditions for State Proposition 204 Funds, Section 3, states "Performance Retention: Disbursements shall be made on the basis of costs incurred to date, less ten percent of the total invoice amount. Disbursement of the ten percent retention shall be made either: (1) upon the Grantee's satisfactory completion of a discrete project task (ten percent retention for task will be reimbursed); or (2) upon completion of the project and Grantee's compliance with project closure requirements specified by CALFED (ten percent retention for entire project will be disbursed)".

The Services's authorization to enter into agreements with non Federal entities was changed in FY 2000. Our FY2000 Appropriations bill authorizes the Service to enter into contracts with State agencies when advance payment to the Service is not possible. In accordance with the requirements imposed by Congress in the FY2000 Appropriations bill and report language, the Services Director must approve a project when advance payment is not possible and certify that payments will be made in full by the State within 90 days after the Service issues an invoice.

Specifically, the 10% retention clause cannot allow timely payments for the following reasons: In our Federal Financial System (FFS) accounting program, a periodic invoice (either quarterly or monthly depending on the terms of the contract) is automatically issued from our finance center based on actual expenditures of the Service on a project. Invoices include a payment due date on the invoice and when payment is not received in full by that due date, the system automatically shows the unpaid balance as delinquent. Depending on how delinquent the payment is, interest, penalty and administrative charges may also accrue. With 10% retention withheld on each invoice, the 10% retention amount then causes applicable invoice record in FFS to be partly delinquent and remain delinquent until the project or individual tasks identified in the contract are completed and the retention is released.

The Service's Finance Center must report to the Department of Treasury if the Service is owed funds by any entity. Therefore, when accounts remain delinquent due to the 10% retention of payments owed the Service, that delinquency continues to be reported to Treasury.

The Service has previously entered into agreements with the State of California that do not contain the 10% retention clause. We have asked the States Deputy Attorney General (see attached letter) to provide clarifying guidance to the Department of Water Resources that is general in scope, which can also be applied to contracts related to the CALFED program.

Our offices will continue to work with the State closely on State funded projects. If the State is not satisfied with the work performed by the Service, the State project manager should contact the Service's project manager to correct the performance problem. If needed, upon notification interim billings can be canceled until the State is satisfied with the Services performance.

We can comply with all other State and Federal standard clauses.

Health monitoring of Hatchery and Natural Fall-run Chinook Juveniles in the San Joaquin River System and Delta, April - June 2001.

Primary Contact: J. Scott Foott, PhD
U.S. Fish & Wildlife Service
California - Nevada Fish Health Center
24411 Coleman Hatchery Road
Anderson, CA 96007

Phone: 530-365-4271
Fax: 530-365-7150
Email: Scott_Foott@fws.gov

Type of Organization / Tax status:
Federal Government / Tax exempt

Executive Summary
This project would build on data collected in the 2000 (April - June) monitoring project and will characterize the health and physiological condition of both natural and hatchery juvenile chinook (*Oncorhynchus tshawytscha*) in the San Joaquin River System and Delta. We propose to increase the number of juvenile natural chinook sampled from 90 to a maximum of 270. The increased sampling would occur at on-going monitoring operations in the Stanislaus, Tuolumne, and Merced Rivers as well as the San Joaquin (rm 50 - 80). Sampling would occur in late March - July 1, 2001 and be in conjunction with the Interagency Ecological Program (IEP) bio-sampling program. The requested funds total $ 40,890.

Project Description
Weekly samples would be collected from a variety of river sites (as mentioned above) and the Delta (Chipp's Island trawl) in conjunction with the IEP and other bio-sampling efforts. Laboratory tests for selected salmonid pathogens and physiological indicators of energy reserves, immunodefences, and smolt development would be conducted by the California-Nevada Fish Health Center. An individual fish database would be utilized in the study in order to track disease and physiological dysfunction to specific stocks, water temperatures of a given location, and sample date. Quarterly and a final report would be produced by the principal investigator as well as oral presentation(s) of the study results.

Location

Fish collections will occur at the California Department of Fish & Game Merced River Fish Facility (MRFF), at various Interagency Ecological Program (IEP) beach seining sites on the San Joaquin River between the confluence of the Stanislaus River and Dois Reis Park (ca. river mile 50 - 74), lower sections of the Stanislaus, Tuolomne, and Merced, and from Chipp's Island trawls conducted by IEP biologists.

MRFF	Snelling, Merced Co.	One pre-release sampling
SJ River	RM 50 - 74, San Joaquin Co.	Bi-weekly, Late March - June30
Stanislaus, Tuolomne, and Merced R.		Bi-weekly Late March - April 15
Chipps	RM 18, Solano/Contra Costra Co.	Bi-weekly, May - June30

Ecological / Biological Objectives

Declining chinook populations in the Central Valley has prompted an intense restoration effort of this valuable resource and a key element of the State's aquatic biodiversity. Health and fitness of juvenile salmon out-migrants ("smolts") are major determinates of their performance and survival. Infectious disease can influence survival due to both direct mortality and reduced physical performance (predator avoidance, saltwater adaptation, etc.). Multi-year, comprehensive fish pathogen surveys need to be conducted on San Joaquin River system chinook to ascertain the effect of fish disease on this population. Contaminants and elevated water temperature have been identified in the CALFED process as stressors for salmonids in the San Joaquin River and Delta. Both of these stressors would have the potential for immunosuppressive effects. Hatchery - wild fish interaction is a controversial topic in natural resource management. The criteria used to define a quality hatchery fish is being reviewed and debated among hatchery and fish biologists. It will be important to profile the physiological condition of the natural population in order to compare with hatchery fish. Similarly, a comparison of the pathogens present in both populations is needed to either support or refute the charge that hatchery fish spread disease to natural populations.

Linkage

No multi-year, comprehensive fish pathogen survey or physiological evaluation of juvenile Fall-run chinook in the San Joaquin River and Delta have been reported to date. This project is primarily directed at the topic of fish management / hatchery operations of a CALFED priority species (pg 421, Artificial Fish Propagation), however, it also addresses the following ERP topics (Feb. 1999 revised ERP Vol.1 and 2):

a) ***Water quality*** - evaluation of the biological processes governed by stream temperature. (pg64). *Specifically, any correspondence of disease incidence or impaired physiological performance to elevated water temperatures.*

b) ***Water quality*** - evaluation of the effects of contaminants on Fall-run chinook juveniles in San Joaquin River and Delta (pg 421). *Specifically, the occurrence of histological lesions in liver and kidney that are reported biomarkers of contaminant exposure.*

Systemwide ecosystem benefits

Data from this project will complement the quantitative efforts of the IEP bio-sampling program by providing qualitative in-sight into the health and condition of the juvenile chinook population. Data can be used by the CDFG in development of optimal hatchery operations for the basin.

Technical feasibility and Timing

Lethal sampling of up to 600 juvenile chinook (270 natural and 330 marked hatchery fish) will be required for this project as only internal organ samples can be used for pathogen assays. At the time of writing, the only listed chinook stock in California which would require a NMFS take permit (section 10) are Winter-run chinook. We do not expect to encounter this stock in the San Joaquin River. Marked fish, **already lethally sampled by IEP biologists for tag recovery**, will used for this project. We anticipate that our project will added to the IEP collection permits. Upon acceptance of this proposal, both CDFG inland fisheries branch and the National Marine Fisheries Service will be contacted to communicate the intent of the project and coordinate any amendment to the Stockton Office IEP permits. Extreme weather conditions or high river flow situation may pose a constraints for any fish collection activity. The ability to collect adipose fin clipped (cwt) chinook will vary considerable with sample period and site.

Methodology

Proposed sites and schedule of sampling: The study will begin in late-March and end in early July. This time frame was chosen to target fish > 70 mm in fork length, so as to accommodate the various assays and encompass the main smolt migration period. Beach seining, random net "grabs" from hatchery rearing units, rotary screw traps in the tributaries and trawl methods will be used for fish collection. The sample goal for each general site (river or trawl) per week will be 30 fall chinook juveniles. The *maximum* sample size are outlined below:

San Joaquin R. **naturals** (March - time of hatchery release)	~ 270
San Joaquin R. marked hatchery	~ 180
Chipp's trawl marked hatchery	~ 150

It is important to note that the number of marked fish collected per week may vary considerably. Total sample numbers and methods were primarily selected to provide statistically valid pathogen prevalence data. The sample size necessary ***to collect*** one affect fish, in a population at least 100,000 in size with a presumed prevalence of

infection $\geq$ 2 % and with a confidence level of p= 0.95, is 147 (Ossiander & Wedemeyer, 1973). The number of samples to actually ***detect*** the agent is related to the sensitivity of the test and tend to increase the collection numbers. Physiological measurement sub-samples will be from 6 - 12 fish per general site on a bi-weekly basis. A 30 - 60 fish sample will be collected from the Merced R. Fish Facility prior to the May release.

Field - Captured chinook will be quickly killed in an overdose of benzocaine. After a brief external examine for organosomatic characteristics, the caudal peduncle will be cut and blood collected in a heparinized microhematocrit tube. The blood sample will either be centrifuged (10,000 RPM, 10 min.) for measurement of hematocrit, leukocrit, and collection of plasma. Plasma samples will be held on ice and later transferred to -80° C. Kidney tissue will be inoculated onto BHI agar (bacterial assay). Portions of the kidney and liver will collected for 2-fish pooled viral assays. The posterior kidney of natural and some hatchery fish will be removed for *R. salmoninarum* ELISA (fish > 100 mm FL) or Fluorescent antibody test on imprints (< 100 mm FL). If no *R. salmoninarum* infection is detected in MRFF pre-liberation samples, there will be a reduction in the number kidney samples tested from subsequent CWT captures. Gill, intestine, pyloric cecae, kidney, and liver from a subset of the collection will be preserved in Davidson's fixative for histological processing. Carcasses (Head removed for CWT reading) from a subset of the collection group will frozen for later lipid analysis. Each fish will be identified with a unique number for tracking of lab samples and CWT identity (IEP activity). Heads from the natural chinook will be tested for *Myxobolus cerebralis* spores. Heads from marked chinook will be given to IEP biologist for stock identification. Refrigerated samples will be expressed shipped to CA-NV Fish Health Center twice per week basis. Target sample numbers per assay are presented in Table 1.

Laboratory - Manual chemistry tests will be used to test specific plasma samples for total protein (5 μl plasma in microplate assay, Pierce BCA Protein Kit 23725) and electrophoretic profile (Ciba- Corning agarose gel kit - 7 fractions & Albumin: Globulin ratio) OR albumin tests only. Histological samples will be processed for 5 μm Haematoxylon and Eosin slides. Evaluations will key on any liver lesions (Fatty changes of hepatocytes, Degenerative nuclei, Hepatocyte hypertrophy, Hepatocytomegaly, Basophilic regeneration zones, abnormal tissue pigments, Neoplastic changes). Kidney tissue will also be closely examined for necrotic changes to the nephron and interstitium. The anterior 1/3 of the fish minus the head will be processed for virological assays and *R. salmoninarum* ELISA or DFAT tests will be performed on posterior kidney. One method for comparing the groups could involve identifying the lowest quartile of each measurement type and the number of fish in each sample which fall below it (e.g. if 0.500 is determined to be the lowest quartile for all leukocrit values, how many fish in a given sample fall below this value are judged abnormal).

Table 1.

Assays	General method
Pathogens:	
R. salmoninarum	ELISA or Fluorescent antibody test
cultured bacteria	BHI agar, biochemical identifications
virus	cell culture, dot blot identifications
parasites	histology, pepsin-trypsin digest (head)
Physiological Measurements:	
Energy reserves	% lipid, condition factor, visceral fat scores
Immune defense	plasma protein (total & Albumin : globulin ratio)
Smolt development	Gill ATPase assay
Contaminant	Liver, gill, and kidney histological examination

Table 2 Target sample sizes for each assay per collection site / week.

Test	sample No. / collection	Total sample No. for study
Virus - pooled kidney sample / EPC - PEG pretreatment Bacteria - kidney / BHIA *R.salmoninarum* ELISA or DFAT kidney sample	2 fish pool x 10 = 20	20 collections x20 = 400 **may be reduced in CWT out-migrants if MRFF pre-lib sample is negative
Histology - lesions / parasites in gill, intestine / pyloric cecae,kidney, liver	10 fish	200 fish
Organosomatic Analysis: Hct, Lct, externals, Wt/Lng, HSI	20 fish	20 collections x20 = 400
Energy Measurements: % lipid, Condition factors, visceral fat score	5 fish	100 - 150 fish
Immune defenses: plasma protein concentration - albumin/ globulin or Electrophoretic profile	5 plasma tests	100 - 150 fish
Smolt Development: gill ATPase	8- 10 fish	160 - 200 fish

Local involvement

Collections will be in conjunction with IEP monitoring activities, other interested monitoring biologists and with the permission of the CDFG (Merced R. Fish Facility). No local entity involvement or impacts are foreseen.

Cost

Total request for the 5 month (field, lab, data/ reporting) project is $ 40,890. Categorical breakdown is as follows:

Personnel:	
(GS9 and GS7 biologists) 560 hrs + 20hrs O/T estimate	$23,000
Supplies / sample shipments:	$15,000
Travel:	$ 1,750
3% FWS overhead charge	$ 1,140

Table 3. Budget

task	Labor hrs	salary /bene.	service contracts	materials	misc.	O/H 3%	total
1.	48	$ 1000	$0	$15000	$ 500	$495	$16995
2	480	$13000	$0	$0	$1000	$365	$14365
3/4	480	$ 8500	$0	$0	$0	$255	$8755
5	40	$ 500	$0	$0	$0	$15	$515
6	**	$ 0	$0	$0	$ 250	$10	$260
totals	1048hr	$23,000	$0	$15,000	$1750	$1140	$40890

Table 4. Quarterly Budget

task	oct-dec99	jan-mar00	apr-jun00	jul-sep00	oct-dec00	totals
1	$0	$0	$16995	$0	$0	$16995
2	$0	$0	$14365	$0	$0	$14365
3 / 4	$0	$0	$ 8755	$0	$0	$8755
5	$0	$0	$ 515	$0	$0	$515
6	$0	$0	$ 260	$0	$0	$260

Schedule

Task 1	Acquire supplies / train bio-sampler	March 1, 2001
Task 2	Collect samples	March 15 - July 1 , 2001
Task 3	Perform lab assays, ship supplies	April 15 - July 30, 2001
Task 4	Input data into spreadsheets	April 15 - July 30, 2001
Task 5	Prepare quarterly & final report	June30 & Sept 30, 2001 for final report
Task 6	Present data for CALFED cooperators	Oct 2001

Cost-sharing

Principle investigation salary for project estimated $9,200 and fish collection by IEP biologist estimated at over $50,000.

Applicant Qualifications John Scott Foott

Education

PhD, Comparative Pathology 1989 University of California, Davis

B.S. Biol. Sciences (Marine Biol.) 1982 California Polytechnic State University, San Luis Obispo

Professional Experience

USFWS 1989 -present Fish Health Biologist & Project Leader

Idaho Dept. Fish & Game 1987-89 Fishery Pathologist

Selected Reports

Foott, JS, JW Williamson, and KC True. 1999. Health, physiology, and migration characteristics of Iron Gate Hatchery Chinook, 1995 Releases. US Fish & Wildlife Service, FY95 Investigational Report, CA-NV FHC, Anderson, CA.

Foott, JS and John D. Williamson. 1996. Health and Physiology Monitoring of Coleman NFH Fall-run Chinook Smolts (FCS-BCW-95-COL) : Component of 1996 Marked Out-migrant Study. US Fish & Wildlife Service, FY96 Investigational Report, CA-NV FHC, Anderson, CA.

Foott, JS, A. Miller, R. Steiner, and RP Hedrick. 1992. Erythrocytic Inclusion Body Syndrome (EIBS) infection of chinook salmon in Idaho. J Aquatic Animal Health, 4: 306-308.

Foott, JS and RP Hedrick. 1990. Blood parameters and immune status of rainbow trout with proliferative kidney disease. J Aquatic Animal Health, 2: 141-148.

Health and Physiological effects of elevated water temperatures on Merced R. juveniles chinook during the parr-smolt transformation: Daily fluctuation and range representative of spring water temperatures in the San Joaquin system and Delta

Environmental Compliance Checklist

All applicants must fill out this Environmental Compliance Checklist. Applications must contain answers to the following questions to be responsive and to be considered for funding. *Failure to answer these questions and include them with the application will result in the application being considered nonresponsive and not considered for funding.*

1. **Do any of the actions included in the proposal require compliance with either the California Environmental Quality Act (CEQA), the National Environmental Policy Act (NEPA), or both?**

   ____ **YES** X **NO**

2. **If you answered yes to # 1, identify the lead governmental agency for CEQA/NEPA compliance.**

   _____
   Lead Agency

3. **If you answered no to # 1, explain why CEQA/NEPA compliance is not required for the actions in the proposal.**

   No land use or water manipulation. Research on Merced R. fish facility chinook with the approval of CDFG.

4. **If CEQA/NEPA compliance is required, describe how the project will comply with either or both of these laws. Describe where the project is in the compliance process and the expected date of completion.**

5. **Will the applicant require access across public or private property that the applicant does not own to accomplish the activities in the proposal?**

   ____ **YES** X **NO**

   If yes, the applicant must attach written permission for access from the relevant property owner(s). Failure to include written permission for access may result in disqualification of the proposal during the review process. Research and monitoring field projects for which specific field locations have not been identified will be required to provide access needs and permission for access with 30 days of notification of approval.

6. Please indicate what permits or other approvals may be required for the activities contained in your proposal. Check all boxes that apply.

LOCAL		
Conditional use permit	—	
Variance	—	
Subdivision Map Act approval	—	
Grading permit	—	
General plan amendment	—	
Specific plan approval	—	
Rezone	—	
Williamson Act Contract cancellation	—	
Other _____ (please specify)	—	
None required	—	
STATE		
CESA Compliance	—	(CDFG)
Streambed alteration permit	—	(CDFG)
CWA § 401 certification	—	(RWQCB)
Coastal development permit	—	(Coastal Commission/BCDC)
Reclamation Board approval	—	
Notification	—	(DFC, BCDC)
Other _____ (please specify)	—	
None required	—	
FEDERAL		
ESA Consultation	—	(USFWS)
Rivers & Harbors Act permit	—	(ACOE)
CWA § 404 permit	—	(ACOE)
Other _____ (please specify)	—	
None required	—	

DPC = Delta Protection Commission
CWA = Clean Water Act
CESA = California Endangered Species Act
USFWS = U.S. Fish and Wildlife Service
ACOE = U.S. Army Corps of Engineers

ESA = Endangered Species Act
CDFG = California Department of Fish and Game
RWQCB = Regional Water Quality Control Board
BCDC = Bay Conservation and Development Comm

Land Use Checklist

All applicants must fill out this Land Use Checklist for their proposal. Applications must contain answers to the following questions to be responsive and to be considered for funding. *Failure to answer these questions and include them with the application will result in the application being considered nonresponsive and not considered for funding.*

1. **Do the actions in the proposal involve physical changes to the land(i.e. grading, planting vegetation, or breeching levees) or restrictions in land use (i.e. conservation easement or placement of land in a wildlife refuge)?**

   _____ **YES** X **NO**

2. **If NO to # 1, explain what type of actions are involved in the proposal (i.e., research only, planning only).**

   Research only

3. **If YES to # 1, what is the proposed land use change or restriction under the proposal?**

4. **If YES to # 1, is the land currently under a Williamson Act contract?**

   _____ **YES** _____ **NO**

5. **If YES to # 1, answer the following:**

   Current land use _____
   Current zoning _____
   Current general plan designation _____

6. **If YES to #1, is the land classified as Prime Farmland, Farmland of Statewide Importance or Unique Farmland on the Department of Conservation Important Farmland Maps?**

   _____ **YES** _____ **NO** _____ **DON'T KNOW**

7. **If YES to # 1, how many acres of land will be subject to physical change or land use restrictions under the proposal?**

   _____

8. **If YES to # 1, is the property currently being commercially farmed or grazed?**

   _____ **YES** _____ **NO**

9. **If YES to #8, what are** **the number of employees/acre** _____
   the total number of employees _____

10. Will the applicant acquire any interest in land under the proposal (fee title or a conservation easement)?

YES ____ NO X

11. What entity/organization will hold the interest? _____

12. If YES to # 10, answer the following:

Total number of acres to be acquired under proposal _____
Number of acres to be acquired in fee _____
Number of acres to be subject to conservation easement _____

13. For all proposals involving physical changes to the land or restriction in land use, describe what entity or organization will:

manage the property _____

provide operations and maintenance services _____

conduct monitoring _____

14. For land acquisitions (fee title or easements), will existing water rights also be acquired?

YES ____ NO ____

15. Does the applicant propose any modifications to the water right or change in the delivery of the water?

YES ____ NO X

16. If YES to # 15, describe _____